

LESSON**8-2****Practice C****Factoring by GCF****Factor each polynomial. Check your answer.**

1. $8x^4 - 12x^2$

2. $-12ab^3 + 20b$

3. $16m^2 - 2n^3 + 30m$

4. $27j^4 - 72j^3 + 9j$

5. $-5x^5 + 35x^4 - 30x^3$

6. $16x^6y + 16x^2y^4 + 32x^3y^2$

7. The expression used for finding the surface area of a cylinder is $2\pi r^2 + 2\pi rh$. Factor this expression.8. The area of a hallway rug is $\frac{3}{2}x^2 + \frac{1}{2}x \text{ ft}^2$. Factor this polynomial to find expressions for the dimensions of the rug.**Factor each expression.**

9. $10(k - 2) + 7k(k - 2)$

10. $9m^2(m + 7) + 5(m + 7)$

Factor each polynomial by grouping.

11. $2t^3 + 6t^2 + t + 3$

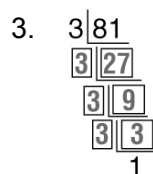
12. $3n^4 + 2n^3 - 15n - 10$

13. $12a^2 + 30a - 14a - 35$

14. $-28n^2 - 14 + 10n^5 + 5n^3$

15. $3b^4 - 24b^3 + 8 - b$

16. $3x^3 - 12x^2 + 20 - 5x$



3^4

4. $3^2 \cdot 11$
6. $2^2 \cdot 3 \cdot 7$
8. 1, 2, 4, 11, 22, 44
10. 5
12. 12
14. $3x^2$
5. $3 \cdot 5^2$
7. 1, 2, 4, 7, 14, 28
9. 4
11. 4
13. $2a$
15. y

Challenge

1. $3^{15}2^{11}1^1$
3. 2^{10}
5. 2, 3, 5, and 7
7. relatively prime
9. $2^{13}3^{25}7^2$
11. 1
13. $2^33^{47}1$
2. $3^25^{27}1$
4. $2^43^{25}7^1$
6. 2 and 11
8. 3, 5, 17, and 31
10. $2^{11}1^2$
12. $3^25^{17}2^31^5$
14. 1

Problem Solving

1. 9 awards in each row; total of 5 rows
2. 12 snacks of 4 carrot sticks and 3 apple slices
3. 8 centerpieces; 9 carnations, 10 lilies, 8 rosebuds
4. 6 rows
6. H
5. A
7. D

Reading Strategies

1. 1, 2, 4, 7, 14, 28
3. 1, 2, 4, 8, 16
5. $4a^2$
7. no; 11 and 3 are factors.
8. $2 \cdot 3^3$
10. $2^4 \cdot 5$
2. $a \cdot a \cdot a \cdot a \cdot a$
4. $a \cdot a$
6. $2m$
9. $2 \cdot 3 \cdot 5^2$

LESSON 8-2

Practice A

1. x ; 5
3. 5 ; y^5 ; 2
5. $6t(-2t^4 + 1)$
7. $5t(-t + 8)$
9. $(d + 2)(4d + 9)$
11. $3n^2$; 12; 3; 3; $(n + 3)(n^2 + 4)$
12. $(2x + 5)(x^2 + 1)$
13. $2y^3$; 6; y ; 2; y ; y ; 2; $(y - 2)(2y^2 - 3)$
14. $(m - 3)(4m^2 - 5)$
2. 5 ; m^3
4. $2y^2(5 + 6y)$
6. $3x^2(2x^2 + 5x + 1)$
8. $3x$ and $x + 8$
10. $(x - 5)(12 + 7x)$

Practice B

1. $c(8c + 7)$
3. $3x(5x^4 - 6)$
5. $6n(n^5 + 3n^3 - 4)$
7. $16t(-t + 2)$
9. $(m + 5)(3m + 4)$
11. $(x + 4)(2x^2 + 3)$
13. $(5d - 3)(2d + 7)$
15. $(b - 3)(5b^3 - 1)$
2. $3n^2(n + 4)$
4. $4(-2s^4 + 5t^3 - 7)$
6. $5m^2(-m^2 - m + 1)$
8. $3x$ and $4x + 1$
10. $(b - 3)(16b + 1)$
12. $(4n + 3)(n^2 + 1)$
14. $(4n - 5)(3n^2 - 2)$
16. $(t^2 - 2)(t - 5)$

Practice C

1. $4x^2(2x^2 - 3)$
3. $2(8m^2 - n^3 + 15m)$
5. $-5x^3(x^2 - 7x + 6)$
7. $2\pi r(r + h)$
9. $(k - 2)(10 + 7k)$
11. $(t + 3)(2t^2 + 1)$
13. $(6a - 7)(2a + 5)$
15. $(3b^3 - 1)(b - 8)$
2. $4b(-3ab^2 + 5)$
4. $9j(3j^3 - 8j^2 + 1)$
6. $16x^2y(x^4 + y^3 + 2xy)$
8. $\frac{1}{2}x$ and $3x + 1$
10. $(m + 7)(9m^2 + 5)$
12. $(3n + 2)(n^3 - 5)$
14. $(2n^2 + 1)(5n^3 - 14)$
16. $(x - 4)(3x^2 - 5)$